

## **Abstract**

**Title:** Comparison of physical fitness tests in swimming.

**Objective:** The aim of this thesis is to evaluate specific tests, used while testing selected physical abilities in swimming. By specific tests we mean tests realized in the water. Selected tests are intended for swim coaches, who train junior to senior age groups.

**Methods:** The chosen method was a comparison of studies, that pursue selected specific tests. We created partial conclusions for every test by summing up the results of different studies.

**Results:** Based on the comparison of the tests we concluded, that the Cooper swimming test is not relevant for the evaluation of aerobic fitness of swimmers. The swim coach should be able to set the value of anaerobic threshold using the following tests: T-3000, T-1000, Critical Swim Speed, Step test 7 x 200. However the results of each test vary.

The anaerobic Critical Swim Speed can be used for the prediction of the performance in sprint events. The Repeated Sprint Swimming test study covered only the distances of 100 m and 2000 m. In our opinion the test would correlate more likely with the results of the shortest swimming event.

The MAD systém test cannot be reproduced without installing a special construction in the swimming pool. The results are highly influenced by the experience with this type of testing. The test 30sec tethered swimming is in our opinion the most reliable method to evaluate the propulsive force of arms in swimming.

**Keywords:** Testing, swimming, swimming test, endurance evaluation, power evaluation, speed evaluation, sports performance